In the Claims:

Note: Claims 1, 3, 13 and 14 are amended and new claims 15-17 are added.

Claims 3 and 13, indicated to contain allowable subject matter, have been re-written into independent form.

Please cancel claim 12 without prejudice.

Please replace the claims as follows:

C2

1. A color measuring device comprising:

a housing;

a plurality of photodetectors for generating data in response to sensed light; and

a field programmable gate array for reading the data from the plurality of photodetectors in parallel and including means for accumulating the data for a selected time period.

2. The color measuring device as set forth in claim 1 further comprising:

a plurality of signal output channels each connected to one of the plurality of photodetectors for communicating the data generated by each photodetector in response to the sensed light; and

the field programmable gate array being configured to receive data from each of the plurality of signal output channels in parallel.

C3

3. A color measuring device comprising:

a housing;

a plurality of photodetectors for generating data in response to sensed light;

a field programmable gate array for reading the data from the plurality of photodetectors in parallel; and

a plurality of optical filters each being paired with one of the plurality of photodetectors, each of the filter/photodetector pairs having a responsivity which extends over different overlapping wavelength regions at longer wavelength ends of a visible spectrum.

4. The color measuring device as set forth in claim 3 further comprising a translator converting the responsivity of said pairs into a responsivity mimicking a color matching function from which a tri-stimulus value can be provided when said pairs are exposed to light to be colormetrically measured.

5. The color measuring device as set forth in claim 3 wherein said filter/photodetector pairs provide a plurality of long-wavelength-pass electro-optical filters.

6. The color measuring device as set forth in claim 3 wherein said filter/photodetector pairs are disposed in an array.

7. The color measuring device as set forth in claim 3 wherein one of said filter/photodetector pairs has a responsivity extending over an entire visible spectrum.

8. A colorimeter for measuring color temperature comprising:

a plurality of filter/photodetector pairs, each having a responsivity which extends over different overlapping wavelength regions at longer wavelength ends of a spectrum, a color temperature of which is to be measured by said colorimeter;

a field programmable gate array programmed to accumulate the responsivity from each of the plurality of filter/photodetector pairs in parallel; and

a translator converting the responsivity into a responsivity mimicking a color matching function from which values can be provided representing said color temperature.

9. The colorimeter according to claim 8 wherein said spectrum is from an emissive source.

10. The colorimeter according to claim 9 wherein said emissive source includes one of a light source, a video display, a radiating body and a black body.

11. The colorimeter according to claim 8 wherein the field programmable gate array includes:

means for receiving the responsivity from each of the plurality of filter/photodetector pairs in parallel;

means for accumulating the responsivity over a predetermined time period; and

means for outputing the responsivity acculumated.

C4 Sub D1

13. A process for measuring a color of an object comprising the steps of:

filtering light from the object with a plurality of filters;(3/28-30)

detecting the filtered light and generating a plurality of light signals representative of the filtered light detected;(3/38-45)

reading the plurality of light signals in parallel(3/49-51)

wherein the reading includes accumulating the plurality of light signals for a selected time period; and Lubbers-52/10-15

generating output signals based on the plurality of light signals read which represent the color of the object.4/67-68

14. The process as set forth in claim 13 wherein the plurality of filters having a light transmission response being non-uniformly distributed across a visible spectrum and each overlapping at longer wavelengths of the visible spectrum.

C5 Sub D2

15. The color measuring device as set forth in claim 1 wherein said filter/photodetector pairs provide a plurality of long-wavelength-pass electro-optical filters.

16. The color measuring device as set forth in claim 1 wherein said filter/photodetector pairs are disposed in an array.

17. The color measuring device as set forth in claim 1 wherein one of said filter/photodetector pairs has a responsivity extending over an entire visible spectrum.